

### ABSTRACT

A system for enhancing images from an electro-optic imaging sensor and for reducing the necessary focal length of a sensor while preserving system acuity. This system uniquely reduces the necessary focal length and enhances images by collecting a video sequence, estimating motion associated with this sequence, assembling video frames into composite images, and applying image restoration to restore the composite image from pixel, lens blur, and alias distortion. The invention synthetically increases the pixel density of the focal plane array. Thus it reduces the necessary size of the projected blur circle or equivalently it reduces the minimum focal length requirements.